

## Overview of Source Water Protection

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State and federal programs are designed to help guide states and public water systems towards better protection of their water supplies.

A six-step process helps water systems assess the risk or vulnerability of their water supply, hand points towards a multi-barrier water protection system. Kentucky assessment process has been in place since 1990 and provided a good foundation for requirements of the [Safe Drinking Water Act](#).

### Source Water Protection under the Safe Drinking Water Act

Virtually every stream, lake, river and aquifer in this country is used as a drinking water source. Protecting public health by protecting drinking water sources from contamination is a national environmental priority. In addition to the public health benefits of a clean water supply, preventing contamination also saves hundreds of millions of dollars by reducing the threat of waterborne illnesses which eliminates costly health care expenses, lost wages, work absences and decreased job productivity. In addition treatment costs incurred by Public Water Systems (PWSs) required to meet federal drinking water quality standards are decreased. The Source Water Protection Program, authorized by the 1996 Amendments to the [Safe Drinking Water Act](#) (SDWA), outlines a comprehensive plan to achieve maximum public health protection. According to the plan, it is essential that every community take these six steps:

- **Delineate** your drinking water source protection area
- **Inventory** known and potential sources of contamination within these areas
- **Determine the susceptibility** of your water supply system to these contaminants
- **Notify and involve the public** about threats identified in the contaminant source inventory and what they mean to their PWS.
- **Implement management measures** to prevent, reduce, or eliminate threats
- **Develop contingency planning strategies** to deal with water supply contamination or service interruption emergencies

### Ensuring Safe Drinking Water Through the Multiple Barrier Approach

Whether your tap water comes from surface or ground water, all drinking water sources are vulnerable to a variety of contaminants from a variety of activities. The origin of contaminants might be in your neighborhood or many miles away. When rain falls or snow melts, it picks up and carries away pollutants, depositing them into lakes, rivers, wetlands, coastal and even underground sources of drinking water. Because we know these activities have the potential to contaminate the source of our drinking water, we have created four major barriers to protect our source water from contamination. Preventing pollution is critical to protecting drinking water from contamination and reducing the need for costly treatment. Community involvement and individual action are key to providing a safe supply of drinking water.

**Risk Prevention Barrier:** The best way to protect drinking water is to keep contaminants from entering source water. Multiple federal, state and local laws and programs and individual action help communities identify the sources of drinking water and potential threats. This work enables communities to take appropriate steps to protect the watershed.

**Risk Management Barrier:** The public water system is the first line of defense to reduce or eliminate contaminants in source water. The Safe Drinking Water Act, which regulates

these systems, develops standards and guidance to help them reach the goal of providing safe and reliable drinking water. They must collect and treat water, hire trained and qualified operators and have an emergency response plan in case of natural disaster or terrorist attack.

**Risk Monitoring and Compliance Barrier:** Dealing effectively with risks to drinking water requires constant evaluation of the water quality. Water is monitored at the source; at the treatment plant, after it has been treated and disinfected; at the distribution system, which delivers water through pumps and pipes to your home; and in some cases, at the consumer's tap. If systems have difficulty meeting regulations and providing safe, reliable drinking water, assistance can be provided to help them. If all this fails, enforcement action can be taken against the system.

**Individual Action Barrier:** Constant vigilance to protect water before it becomes your drinking water is essential and involves all of us. An informed, involved and supportive public is the foundation of drinking water protection. What we do in the watershed can directly impact the quality of water that arrives at the treatment plant. The more you know about drinking water, the better equipped you are to help protect it.

### **SDWA and the Source Water Assessment and Protection Program**

Originally created in 1970, EPA's primary mission was to address the potential risks to public health posed by a variety of sources polluting our air and water, and initial program efforts within the agency focused on individual threats from unique, discreet sources. Since then an understanding of the complexity of contaminants and activities posing threats has increased dramatically and has resulted in the need for a combined and coordinated interdisciplinary approach in order to address the problem in a cross-media fashion. Consequently, lessons learned over the last two decades have enabled a more comprehensive understanding of the concept of cumulative risk (e.g., net impact from many media such as air, water and land uses) and we have modified preventive programs to meet those changing needs.

The 1996 amendments to the Safe Drinking Water Act (SDWA 1996) established EPA's Source Water Assessment and Protection Programs. They are the Agency's newest programs targeted at providing clean safe drinking water, but they build on programs developed to carry out EPA's original mission. Congress recognized the need for a more comprehensive and integrated approach to the problem of cumulative risk reduction and SDWA 1996 mandated specific program elements to address the areas of risk identification (delineation and source inventories), risk ranking and screening (susceptibility analyses), risk management measures (prevention programs) and preparation for unexpected drinking water supply replacement emergencies (contingency planning).

### **Kentucky's Source Water Protection Program**

The Commonwealth of Kentucky instituted its source water assessment and protection program in 1990, when the legislature passed a statute requiring long-range county water supply plans. The statute had as its goal the development of long-range water-supply plans for each county and its municipalities and public water systems.

The purposes of water supply plans were to evaluate the situation in each of Kentucky's 120 counties so that they could prepare to provide adequate water at all times in the foreseeable future. Through the planning process, each county will know the adequacy and security of current supplies, make recommendations to protect them, create contingency

plans and develop alternatives where additional or alternate supplies will be needed during the next 20 years.

With respect to source water assessment and protection, the regulation specifically requires public participation, delineation of source water watersheds and recharge areas for each public water supply source, a contaminant source inventory with relative susceptibility (risk) assessment and recommendations for protection. Thus, the Wellhead Protection Program, approved in 1993, was strengthened because water supply planning regulations already provided a regulatory mandate.

Most counties have banded together as planning units and are relying on the state's 15 Area Development Districts (ADDs) to do the extensive planning. The Lexington-Fayette Urban County Government and Jefferson County (Louisville and many small municipalities) have declined assistance from the Area Development Districts.

One incentive in the statute and one enforcement method were provided for implementation effectiveness in the water supply plan statute. The incentive, partial funding for Water Supply Planning, was available through July 1996. The enforcement method impacts the availability of state and federal funding. After July 1999, KRS 151.118 mandates that the Natural Resources and Environmental Protection Cabinet (NREPC) *"shall not endorse projects that impact water under inter-governmental review for any county or municipality without an approved water supply plan."* This is virtual veto power; most governmentally funded projects require some kind of water service and counties without approved water supply plans will not, for all practical purposes, be eligible for state or federal funds. This includes access to the state revolving funds created by the Clean Water and Safe Drinking Water Acts, community development block grants and funding assistance through Kentucky's Governor's Water Resources Development Commission.

### **What is source water protection?**

Source water protection is any law, ordinance, program, or activity that help to secure a secure and long-term quantity and quality of water, that is suitable as a drinking water supply. Since there are many threats to our drinking water supplies and drinking water is so critical to our survival, it is important to that appropriate measures are taken to ensure the long-term protection of our water supply. There are numerous programs and requirements designed to address this critical need.

For more information on:

- Why protect drinking water supplies? (*Drinking water is an important commodity to our life. It is critical to our survival, health and well-being. How well we take care of our drinking water and their sources has important economic implications. The sources where we get our drinking water also have important value for recreation, tourism, quality of life and economic value to communities.*)
- What are the threats to my drinking water supply? (*There are many contaminants that may be of concern to drinking water supplies. Depending upon the land use and activities in the supply area any or all of these may be present in source water before it is treated.*)
- How's my drinking water? (*View compliance data in your consumer confidence report or monitoring results in the 305(b) Report to Congress on Water Quality.*)